



ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 98

[EPA-HQ-OAR-2011-0147; FRL-9667-4]

RIN 2060-AR53

**2012 Technical Corrections, Clarifying and Other Amendments to
the Greenhouse Gas Reporting Rule, and Proposed Confidentiality
Determinations for Certain Data Elements of the Fluorinated Gas
Source Category**

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: The EPA is proposing to amend specific provisions of the Greenhouse Gas Reporting Rule to provide greater clarity and flexibility to facilities subject to reporting emissions from certain source categories. These source categories will report greenhouse gas (GHG) data for the first time in September of 2012. The proposed changes are not expected to significantly change the overall calculation and monitoring requirements of the Greenhouse Gas Reporting Rule or add additional requirements for reporters, but are expected to correct errors and clarify existing requirements in order to facilitate accurate and timely reporting. The EPA is also proposing confidentiality determinations for four new data elements for the fluorinated gas production source category of the Greenhouse Gas Reporting

Rule. Lastly, we are proposing an amendment to Table A-7 of the general provisions to add a data element used as an input to an emission equation in the fluorinated gas production source category.

DATES: Comments. Comments must be received on or before [INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION OF THIS PROPOSED RULE IN THE FEDERAL REGISTER].

Public Hearing. The EPA does not plan to conduct a public hearing unless requested. To request a hearing, please contact the person listed in the following **FOR FURTHER INFORMATION CONTACT** section by [INSERT DATE 7 DAYS AFTER DATE OF PUBLICATION OF THIS PROPOSED RULE IN THE FEDERAL REGISTER]. Upon such request, the EPA will hold the hearing on [INSERT DATE 15 DAYS AFTER DATE OF PUBLICATION OF THIS PROPOSED RULE IN THE FEDERAL REGISTER], in the Washington, DC area. The EPA will provide further information about the hearing on the GHGRP website, <http://www.epa.gov/climatechange/emissions/ghgrulemaking.html> if a hearing is requested.

ADDRESSES: Submit your comments, identified by Docket ID No. EPA-HQ-OAR-2011-0147, by one of the following methods:

- Federal eRulemaking Portal: <http://www.regulations.gov>.
Follow the online instructions for submitting comments.

- E-mail: MRR_Corrections@epa.gov. Include Docket ID No. EPA-HQ-OAR-2011-0147 [and/or RIN number] in the subject line of the message.
- Fax: (202) 566-9744.
- Mail: Environmental Protection Agency, EPA Docket Center (EPA/DC), Mailcode 2822T, Attention Docket ID No. EPA-HQ-OAR-2011-0147, 1200 Pennsylvania Avenue, NW., Washington, DC 20004.
- Hand/Courier Delivery: EPA Docket Center, Public Reading Room, EPA West Building, Room 3334, 1301 Constitution Avenue, NW., Washington, DC 20004. Such deliveries are only accepted during the Docket's normal hours of operation, and special arrangements should be made for deliveries of boxed information.

Additional Information on Submitting Comments: To expedite review of your comments by agency staff, you are encouraged to send a separate copy of your comments, in addition to the copy you submit to the official docket, to Carole Cook, U.S. EPA, Office of Atmospheric Programs, Climate Change Division, Mail Code 6207-J, Washington, DC, 20460, telephone (202) 343-9263, e-mail address: GHGReportingRule@epa.gov.

Instructions: Direct your comments to Docket ID No. EPA-HQ-OAR-2011-0147. The EPA's policy is that all comments received will be included in the public docket without change and may be made available online at <http://www.regulations.gov>, including any personal information provided, unless the comment includes information claimed to be confidential business information (CBI) or other information whose disclosure is restricted by statute. Should you choose to submit information that you claim to be CBI in response to this notice, clearly mark the part or all of the comments that you claim to be CBI submitted in response to this notice. For information that you claim to be CBI in a disk or CD ROM that you mail to EPA, mark the outside of the disk or CD ROM as CBI and then identify electronically within the disk or CD ROM the specific information that is claimed as CBI. In addition to one complete version of the comment that includes information claimed as CBI, a copy of the comment that does not contain the information claimed as CBI must be submitted for inclusion in the public docket. Information marked as CBI will not be disclosed except in accordance with procedures set forth in 40 CFR Part 2. Send or deliver information claimed as CBI to only the mail or hand/courier deliver address listed above, attention: Docket ID No. EPA-HQ-OAR-2011-0147.

If you have any questions about CBI or the procedures for claiming CBI, please consult the person identified in the **FOR FURTHER INFORMATION CONTACT** section. Do not submit information that you consider to be CBI or otherwise protected through <http://www.regulations.gov> or e-mail. The <http://www.regulations.gov> website is an "anonymous access" system, which means the EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an e-mail comment directly to the EPA without going through <http://www.regulations.gov> your e-mail address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, the EPA recommends that you include your name and other contact information in the body of your comment and with any disk or CD-ROM you submit. If the EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, the EPA may not be able to consider your comment. Electronic files should avoid the use of special characters, any form of encryption, and be free of any defects or viruses.

Docket: All documents in the docket are listed in the <http://www.regulations.gov> index. Although listed in the index, some information is not publicly available, e.g., CBI or other information whose disclosure is restricted by statute. Certain

other material, such as copyrighted material, will be publicly available only in hard copy. Publicly available docket materials are available either electronically in <http://www.regulations.gov> or in hard copy at the Air Docket, EPA/DC, EPA West Building, Room 3334, 1301 Constitution Ave., NW., Washington, DC. This Docket Facility is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566-1744, and the telephone number for the Air Docket is (202) 566-1742.

FOR FURTHER INFORMATION CONTACT: Carole Cook, Climate Change Division, Office of Atmospheric Programs (MC-6207J), Environmental Protection Agency, 1200 Pennsylvania Ave., NW, Washington, DC 20460; telephone number: (202) 343-9263; fax number: (202) 343-2342; e-mail address:

GHGReportingRule@epa.gov. For technical information, please go to the Greenhouse Gas Reporting Rule Program website at <http://www.epa.gov/climatechange/emissions/ghgrulemaking.html>.

To submit a question, select Rule Help Center, followed by Contact Us. To obtain information about the public hearing or to register to speak at the hearing, please go to <http://www.epa.gov/climatechange/emissions/ghgrulemaking.html>. Alternatively, contact Carole Cook at 202-343-9263.

Worldwide Web (WWW). In addition to being available in the docket, an electronic copy of this proposal will also be available through the WWW. Following the Administrator's signature, a copy of this action will be posted on the EPA's Greenhouse Gas Reporting Program website at <http://www.epa.gov/climatechange/emissions/ghgrulemaking.html>.

SUPPLEMENTARY INFORMATION:

Regulated Entities. The Administrator determined that this action is subject to the provisions of Clean Air Act (CAA) section 307(d). See CAA section 307(d)(1)(V) (the provisions of section 307(d) apply to "such other actions as the Administrator may determine"). These are proposed amendments to existing regulations. If finalized, these amended regulations would affect owners or operators of direct emitters of GHGs. Regulated categories and examples of affected entities include those listed in Table 1 of this preamble:

Table 1. Examples of Affected Entities by Category

Category	NAICS	Examples of affected facilities
Petroleum and Natural Gas Systems	486210	Pipeline transportation of natural gas.
	221210	Natural gas distribution facilities.
	211	Extractors of crude petroleum and natural gas.
Electronics Manufacturing	211112	Natural gas liquid extraction facilities.
	334111	Microcomputers manufacturing facilities.
	334413	Semiconductor, photovoltaic (solid-state) device manufacturing facilities.
	334419	LCD unit screens manufacturing facilities.

Category	NAICS	Examples of affected facilities
	334419	MEMS manufacturing facilities.
Fluorinated Gas Production	325120	Industrial gases manufacturing facilities.
Industrial Waste Landfills	562212	Solid waste landfills.
	322110	Pulp mills.
	322121	Paper mills.
	322122	Newsprint mills.
	322130	Paperboard mills.
	311611	Meat processing facilities.
	311411	Frozen fruit, juice, and vegetable manufacturing facilities.
	311421	Fruit and vegetable canning facilities.
	221320	Sewage treatment facilities.

Table 1 of this preamble is not intended to be exhaustive, but rather lists the types of facilities that the EPA is now aware could be potentially affected by the reporting requirements. Other types of facilities not listed in the table could also be subject to reporting requirements. To determine whether you are affected by this action, you should carefully examine the applicability criteria found in 40 CFR part 98, subpart A or the relevant criteria in the sections related to direct emitters of GHGs. If you have questions regarding the applicability of this action to a particular facility, consult the person listed in the preceding **FOR FURTHER INFORMATION CONTACT** section.

Acronyms and Abbreviations. The following acronyms and abbreviations are used in this document.

acf	actual cubic feet
AGR	acid gas removal
ASTM	American Society for Testing and Materials

BAMM	best available monitoring methods
CAA	Clean Air Act
CBI	confidential business information
CEMS	continuous emissions monitoring system
CFC	chlorofluorocarbon
CFR	Code of Federal Regulations
CH ₄	methane
CO ₂	carbon dioxide
DOC	degradable organic carbon
EF	emission factor
e-GGRT	electronic-GHG Reporting Tool
EPA	U.S. Environmental Protection Agency
FR	Federal Register
GHG	greenhouse gas
GHGRP	Greenhouse Gas Reporting Program
HCFC	hydrochlorofluorocarbon
kg	kilograms
kg/ft ³	kilograms per cubic foot
mcf	methane correction factor
MMscf	million standard cubic feet
MRV	monitoring, reporting and verification
MSHA	Mine Safety and Health Administration
MtCO ₂ e	metric tons carbon dioxide equivalent
N ₂ O	nitrous oxide
NAICS	North American Industry Classification System
NOAA	National Oceanic and Atmospheric Administration
NTTAA	National Technology Transfer and Advancement Act
OMB	Office of Management and Budget
PFCs	perfluorocarbons
psia	pounds per square inch absolute
RFA	Regulatory Flexibility Act
SF ₆	sulfur hexafluoride
U.S.	United States
UMRA	Unfunded Mandates Reform Act of 1995

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I. Background

A. How is this preamble organized?

The first section of this preamble contains the basic background information about the origin of these proposed rule amendments and request for public comment. This section also discusses the EPA's use of our legal authority under the Clean Air Act to collect data under the Mandatory Reporting of Greenhouse Gases Reporting Rule, hereinafter referred to as the "GHG Reporting Rule."

The second section of this preamble describes in detail the changes that are being proposed to correct technical errors, to provide clarification, or to address implementation issues identified by the EPA and others. This section also presents the EPA's rationale for the proposed changes and identifies issues on which the EPA is particularly interested in receiving public comments. This section also includes proposed confidentiality determinations for four new data elements for the fluorinated gas production source category of the Greenhouse Gas Reporting Rule.

Finally, the last (third) section of the preamble discusses the various statutory and executive order requirements applicable to this proposed rulemaking.

B. Background on This Action

The 2009 final GHG Reporting Rule was signed by EPA Administrator Lisa Jackson on September 22, 2009 and published in the Federal Register on October 30, 2009 (74 FR 56260, hereafter referred to as the "2009 final rule" or "Part 98"). The 2009 final rule, which became effective on December 29, 2009, requires reporting of GHGs from various facilities and suppliers, consistent with the 2008 Consolidated Appropriations Act.¹ Subsequent notices were published in 2010 finalizing the requirements for subpart TT (75 FR 39736, July 12, 2010), subpart W (75 FR 74458, November 30, 2010), and subpart L (75 FR 74774, December 1, 2010).

Following the promulgation of these subparts, the EPA finalized four technical corrections and clarifying amendments to these and other subparts under the Greenhouse Gas Reporting Program (GHGRP) (75 FR 66434, October 28, 2010; 75 FR 79092, December 17, 2010; 76 FR 73866, November 29, 2011; 76 FR 80554, December 23, 2011). The corrections and amendments within those four actions did not change the basic requirements of the rule, but were intended to improve clarity and ensure consistency across the calculation, monitoring, and data reporting requirements. Similarly, the corrections, clarifying and other amendments in this action are intended to provide greater

¹ Consolidated Appropriations Act, 2008, Public Law 110-161, 121 Stat. 1844, 2128.

clarity and flexibility to facilities subject to reporting in 2012.

On January 10, 2012 (77 FR 1434), EPA proposed confidentiality determinations for data elements (excluding those in the inputs to equation category) in 8 subparts of part 98, including subpart L. This proposed amendment includes adding 4 new data elements to subpart L. In conjunction with this addition, we are proposing confidentiality determinations for the new data elements in the proposed amendment to subpart L.

C. Legal Authority

The EPA is proposing these rule amendments under its existing CAA authority, specifically authorities provided in CAA section 114. As stated in the preamble to the 2009 final rule (74 FR 56260, October 30, 2009) and the Response to Comments on the Proposed Rule, Volume 9, Legal Issues, CAA section 114 provides the EPA broad authority to require the information proposed to be gathered by this rule because such data would inform and are relevant to the EPA's carrying out a wide variety of CAA provisions. As discussed in the preamble to the initial proposed rule (74 FR 16448, April 10, 2009), CAA section 114(a)(1) authorizes the Administrator to require emissions sources, persons subject to the CAA, manufacturers of control or process equipment, or persons who the Administrator believes may

have necessary information to monitor and report emissions and provide such other information the Administrator requests for the purposes of carrying out any provision of the CAA. For further information about the EPA's legal authority, see the preambles to the 2009 proposed and final rules and EPA's Response to Comments, Volume 9.

In addition, EPA is proposing confidentiality determinations for four proposed data elements in subpart L, under its authorities provided in sections 114, 301 and 307 of the CAA. As mentioned above, CAA section 114 provides EPA authority to obtain the information in part 98, including those in subpart L. Section 114(c) requires that EPA make publicly available information obtained under section 114 except for information (excluding emission data) that qualify for confidential treatment.

The Administrator has determined that this action (proposed amendment and confidentiality determination) is subject to the provisions of section 307(d) of the CAA.

D. How would these amendments apply to 2012 reports?

The EPA is proposing technical clarifications and amendments to 40 CFR part 98, subparts A, L, W, and TT. The EPA is planning to address any comments on these proposed amendments and publish final amendments before September 28, 2012.

Therefore, reporters would be expected to calculate emissions

and other relevant data for the reports that are submitted by September 28, 2012 using 40 CFR part 98 as amended by this proposed action. We have determined that it is feasible for the sources to implement these changes for the 2011 reporting year because the revisions are primarily technical corrections that provide clarifications regarding the existing regulatory requirements, or reduce the amount of information that is required to be reported. The proposed amendments do not change the type of information that must be collected, and do not materially affect how emissions are calculated.

In the case of 40 CFR part 98, subpart A (subpart A), the proposed amendment is merely a harmonizing change to a technical correction finalized in February 2012 (see 77 FR 10373). That final amendment required reporters to calculate emissions of certain additional fluorinated heat transfer fluids under subpart I; however, the EPA inadvertently did not amend the corresponding requirement to include those calculated emissions in the annual GHG report. In this action, we are proposing to include these emissions from heat transfer fluids in the facility level totals reported to the EPA in the annual GHG report.

In the case of 40 CFR part 98, subpart L (subpart L), the EPA is proposing that facilities subject to subpart L report greenhouse gas emissions in a less detailed manner for Reporting

Years 2011 and 2012. This proposed amendment is a temporary change (i.e., for years 2011 and 2012 only) to allow the EPA time to fully evaluate concerns recently raised by stakeholders that reporting, and subsequent EPA release, of certain emission data would reveal trade secrets.

In the case of 40 CFR part 98, subpart W (subpart W), the EPA concludes that these proposed amendments are all technical corrections that, while important to make to allow reporters to calculate emissions accurately, do not materially affect the actions facilities would have already undertaken to comply with the rule. For example, in this action, EPA is proposing a correction to the emission factors in Table W-1A of subpart W for the onshore petroleum and natural gas production segment. In the December 23, 2011 final rule (76 FR 80554, December 23, 2011, referred to hereinafter as the "December 2011 final rule"), the EPA revised several of the emission factors in this table, along with the emission factors in other tables in subpart W to reflect a consistent standard temperature and pressure. In the process of converting specific emission factors within Table W-1A of subpart W an omission occurred that we are proposing to correct in this action. As stated previously, a proposed change such as this would not materially affect the actions a facility would undertake to comply with the rule.

In the case of 40 CFR part 98, subpart TT (subpart TT), this proposal excludes some facilities from the reporting requirements and thereby further reduces the reporting under the GHG Reporting Rule. These excluded facilities are not expected to emit GHGs since they only receive inert wastes that do not generate methane.

For additional background information regarding some of these amendments, please refer to the Technical Support Document for the 2012 Technical Corrections, Clarifying and Other Amendments to Certain Provisions of the Greenhouse Gas Reporting Rule proposal available in the docket for this rulemaking (EPA-HQ-OAR-2011-0147).

The EPA generally seeks comment on the EPA's conclusion that it would be appropriate to implement these proposed amendments and incorporate the requirements for the data that must be reported to the EPA by September 2012. Further, we seek comment on whether there are specific proposed changes for which this timeline may not be feasible or appropriate. We request that commenters provide specific examples of how the proposed implementation schedule would or would not be feasible.

E. How would these amendments affect confidentiality determinations?

The proposed amendments do not affect the confidentiality determinations for subpart A data elements finalized in the

Final CBI rule,² (hereinafter referred to as the "final CBI rule"), the proposed determinations for subpart W³ and subparts L and TT,⁴ or the proposed or final deferral rule(s) extending the reporting deadlines for the data elements in these subparts that are as assigned to the inputs to emission equations data category.⁵

In this notice, we are proposing confidentiality determinations for proposed new subpart L data elements. The proposed confidentiality determinations for these new data elements together with our rationale are discussed in detail in Section II.D.3 of this preamble.

There are no proposed determinations for subparts A, W, and TT, since the proposed amendments to those subparts do not include any proposed new data elements. The proposed amendments would delete an existing subpart W data element and make only minor clarifications to the existing reporting requirements in subpart W. For the Subpart A proposed amendments, we are not proposing any confidentiality determinations because the data element being added is a subset of another data element in subpart I for which we've already proposed a CBI determination. This is explained in further detail in Section II.A.3 of this

² See 75 FR 30782, May 26, 2011.

³ See 77 FR 11039, February 24, 2012.

⁴ See 77 FR 1434, January 10, 2012.

⁵ See 77 FR 11039, February 24, 2012 (subpart I), 77 FR 1434, January 10, 2012 (subpart W), and 76 FR 53057, August 25, 2011.

preamble. There are no proposed amendments to the reporting requirements for subpart TT.

II. Technical Corrections, Clarifying and Other Amendments

The EPA has identified minor corrections, clarifying and other amendments that we are now proposing in this action. We have also identified certain rule provisions that we are proposing to amend to provide greater clarity. The amendments we are now proposing include the following types of changes:

- Changes to correct cross references within and between subparts.
- Amendments to certain equations to better reflect actual operating conditions.
- Corrections to terms and definitions in certain equations.
- Corrections to data reporting requirements so that they more closely conform to the information used to perform emission calculations.
- Amendment to Table A-7 to subpart A to add a Subpart L data element used as an input to an emission equation that was inadvertently omitted in the final deferral rule.
- Other amendments related to certain issues identified as a result of working with the affected sources during rule implementation and outreach.

We are seeking public comment only on the issues specifically identified in this proposed rule for the identified subparts. We will not consider, through this notice and comment process, comments that are outside the scope of this proposed rule.

A. Subpart A - General Provisions

1. Background

In today's rule, we are proposing a few minor amendments to the general reporting requirements of 40 CFR 98.3(c)(4) of subpart A. These changes relate to reporters that would be reporting under the electronics manufacturing source category (40 CFR part 98, subpart I; hereinafter referred to as "subpart I"). We are also proposing an amendment to Table A-7 to subpart A to add a Subpart L data element used as an input to an emission equation that was inadvertently omitted in the final deferral rule.

For subpart I, the proposed change clarifies the GHGs that should be reported in the annual GHG report (40 CFR 98.3(C)(4)). This proposed change follows the amendments to reporting requirements for heat transfer fluids (fluorinated HTFs) that were published on February 22, 2012 (77 FR 10373). In that rule, the EPA amended the definition of fluorinated HTFs to specify that the lower vapor pressure limit clause in the subpart A

definition of fluorinated GHG did not apply to fluorinated HTFs in subpart I beginning in reporting year 2012 (40 CFR 98.98).

2. Proposed Amendments

Section 98.3(c)(4) of subpart A specifies the types of data and format for reporting emissions in the annual GHG reports (e.g., annual emissions from each source category by GHG).

Without the proposed change to conform the subpart I requirements for fluorinated HTFs with subpart A, reporters are required to calculate emissions of fluorinated HTFs under subpart I but report only a subset of them in their annual report totals under subpart A. The proposed amendment to subpart A specifies that facilities subject to subpart I must include all fluorinated HTFs in the computation of CO₂e that is required by 40 CFR 98.3(c)(4)(i). Facilities must report each fluorinated HTF that is also a fluorinated GHG under 40 CFR

98.3(c)(4)(iii)(E) and each fluorinated HTF that is not a fluorinated GHG in the newly proposed data element, 40 CFR 98.3(c)(4)(iii)(F). Today's proposed change is a harmonizing modification to clarify how facilities subject to subpart I would report the emissions from fluorinated heat transfer fluids, as required by the February 22, 2012 amendments to subpart I. The EPA determined that this change would simplify reporting for facilities and reduce burden by amending subpart A to be consistent with the requirements in subpart I.

The EPA is proposing to make this change effective for reporting year 2012. Given that facilities are already required to calculate emissions of fluorinated HTFs under subpart I, reporters will already have the necessary data to comply with the proposed amendments.

Table A-7 to subpart A of Part 98 lists the inputs to emission equations whose reporting deadlines are currently deferred until March 31, 2015. In the final deferral, the data element, "the mass of each fluorine-containing product produced by the process" (40 CFR 98.126(b)(7)) was inadvertently omitted from Table A-7 of subpart A. This data element is an input to an equation because it is used in Equation L-6. Thus, we are proposing to amend Table A-7 to subpart A to include this input and hence, defer its reporting deadline until March 31, 2015.

3. Overview and Approach to Proposed CBI Determinations

The proposed changes to subpart A do not affect the proposed confidentiality determinations for subpart A or I data elements or the proposed deferral of the deadline for reporting inputs to emission equations (February 22, 2012, 77 FR 10434; Mandatory Reporting of Greenhouse Gases Rule: Confidentiality Determinations and Best Available Monitoring Methods Provisions, hereinafter referred to as the "February 22, 2012 CBI rule").

As discussed in Section II.A.2 of this preamble, the EPA is proposing to add a data element in Subpart A

(98.3(c)(4)(iii)(F)). This additional data element is a harmonizing change that makes the subpart A requirements consistent with the recently finalized February 22, 2012 subpart I amendments. To that end, the information that would be reported under the proposed new data element in subpart A is a subset of the information to be reported under the data element 98.96(c)(4), which the EPA proposed to be non-confidential by assigning it to the "Emissions" category in a recent action⁶. Since the information proposed under Subpart A in today's action is a subset of the information to be reported under 98.96(c)(4), the confidentiality determination proposed for that subpart I data element applies to the subpart A data element proposed in this action. As a result, we are not proposing a confidentiality determination for the new subpart A data element in this action.

B. Subpart TT - Industrial Waste Landfills

1. Background

In this action we are proposing one correction to the provisions of subpart TT to exclude certain facilities that only receive inert waste from reporting requirements under the GHG Reporting Rule. This proposed amendment would ensure that landfills that are not expected to emit GHGs are excluded from reporting requirements under this subpart.

2. Proposed Amendment

⁶ See 77 FR 10434, February 22, 2012.

We are proposing one technical amendment to subpart TT to address questions received about applicability of the subpart to industrial waste landfills that receive only inert wastes. In subpart TT, the volatile solids concentration is used as a surrogate for determining degradable organic carbon (DOC) content of a waste material [40 CFR 98.464(b)(4)(ii)]. In 40 CFR 98.460(c)(xii), the EPA provides an exclusion for those facilities that receive inert waste materials "with a volatile solids concentration of 0.5 weight percent (on a dry basis) or less." However, some landfill owners or operators test their waste stream to determine directly waste-specific degradable organic content. These tests, when performed as described in 40 CFR 98.464(b)(4)(i)(A) of the rule, can provide a more accurate DOC value than calculating organic content from volatile solids. Therefore, to ease reporting burden on those facilities that receive inert waste but calculate DOC directly, we propose to add a direct DOC value exclusion as 40 CFR 98.460(c)(2)(xiii). This exclusion would be provided in weight percent on a wet basis because this is consistent with the units for DOC.

3. Overview and Approach to Proposed CBI Determinations

This proposed amendment to subpart TT is not expected to affect the proposed confidentiality determinations for subpart TT data elements or the proposed deferral of the deadline for reporting of inputs to emission equations (January 10, 2012, 77

FR 1434; Proposed Confidentiality Determinations for Data Elements Under the Mandatory Reporting of Greenhouse Gases Rule and Amendments to Table A-6 to Subpart A of Part 98, of the Greenhouse Gas Reporting Rule, hereinafter referred to as the January 10, 2012 CBI rule.)

C. Subpart W - Petroleum and Natural Gas Systems

1. Background

In this action, the EPA is proposing minor corrections and clarifying amendments to certain provisions to assist facilities with implementing existing rule requirements. We are proposing technical corrections to provisions in subpart W for calculating and reporting greenhouse gas emissions, as well as several emission factors in associated tables. Since publication of subpart W in November 2010, the EPA amended subpart W on December 23, 2011, (76 FR 80554). That notice included technical corrections and clarifications designed to increase flexibility, provide needed clarification regarding applicability, and to address specific errors in equations and citations. This proposal complements that action and is not intended to duplicate or replace the amendments published on December 23, 2011.

Many of the corrections in the December 23, 2011 action were the result of internal review by the EPA, as in the case of the correction to the calculation methodology for estimating

emissions from gas well venting during completions and workovers using hydraulic fracturing. Onshore petroleum and natural gas facilities subject to subpart W are required to report emissions resulting from this emission source using one of three methods in the December 23, 2011 rule. The first method relies on installation of a recording flow meter on the vent line (upstream of a flare or vent if used) to measure the flowback rate for representative wells in each gas producing sub-basin category and well type combination. The second method is based on engineering equations to calculate the well flowback during well completions and workovers from hydraulic fracturing. The last method applies to facilities that are already measuring the flowback volumes during gas well completions or workovers within a given sub-basin and well type combination.

Following the EPA's review of this emission source, and method two in particular, we determined that correction was needed to Equations W-11A and W-11B to convert the resultant flow rate (parameter FR) into standard conditions instead of the resultant actual conditions as written. Without this conversion, the calculated flow volumes in Equations W-11A and W-11B would incorrectly result in actual conditions instead of standard conditions, which is necessary for input into Equations W-12 and W-10A. In this action, the EPA is proposing to include a correction to convert the flow rate determined in Equation W-11A

and W-11B to standard conditions through the use of Equation W-33.

2. Proposed Technical Corrections

EPA is proposing several technical corrections and amendments to subpart W to correct equations and otherwise clarify provisions in the rule to ensure consistency across the calculation, monitoring, and reporting requirements in subpart W and thereby facilitate reporting.

This section describes the EPA's proposed corrections for subpart W.

Calculating Greenhouse Gas Emissions. The EPA is proposing several clarifications, corrections, and amendments throughout 40 CFR 98.233. These proposed changes are intended to clarify terms, correct references, and remove extraneous terms.

Dehydrator Vents. The EPA is proposing to amend Equation W-6 in 40 CFR 98.233(e)(5) by removing a factor of 1000 from the denominator so that the calculated emissions will result in standard cubic feet rather than thousand standard cubic feet.

Well Venting for Liquids Unloading. The EPA is proposing to provide reporters with the option to take and use more than the prescribed number of sample measurements per unique well tubing diameter and pressure group combination per sub-basin. The EPA notes that this would not change the burden to reporters, and still only would require that one sample per unique well tubing

diameter and pressure group combination be taken, but would allow reporters to account for any additional samples that they may have already taken.

The EPA is proposing to amend Equation W-7 in 40 CFR 98.233(f)(1) by changing the parameter " FR_p " to " FR " in both Equation W-7 and in the definition to avoid confusion. As previously written, the equation could be interpreted to imply that the flow rate should be measured for all wells, as " p " refers to all wells in a pressure group and tubing group combination; rather, the intention of the equation is to calculate the flow rate for at least one well in each tubing and pressure group combination within a sub-basin. Removing the subscript " p " from the parameter and revising the parameter definition accordingly clarifies that the measurement is not for all wells. Also in Equation W-7, the EPA is proposing to amend the parameter T_p and its definition to clarify that it refers to the cumulative amount of time in hours for venting of each well as opposed to the time for the well(s) that were measured.

The EPA is proposing to update Equation W-8 in 40 CFR 98.233(f)(2) by revising the definition of parameter SP_p to clarify that the reporter must take a ratio of casing to tubing pressure. The EPA is further updating Equation W-8 and also Equation W-9 in 40 CFR 98.233(f)(3) by replacing the subscript " q " with " p " in parameter SFR to match the definition of

parameter SFR_p . Finally, for Equations W-8 and W-9, the EPA is clarifying that the terms V_p and $HR_{p,q}$ are to be monitored per unloading event.

Gas Well Venting During Completions and Workovers from Hydraulic Fracturing. The EPA reviewed Equation W-11A, which calculates a flow rate for subsonic flow, and Equation W-11B, which calculates a flow rate for sonic flow. These equations are intended to calculate flow of gas following hydraulic fracturing of gas wells through a choke at the wellhead. The EPA determined that the equations as presented in the final rule are correct. However, it may not be clear in the December 2011 final rule that the output from Equations W-11A and W-11B are at actual conditions, i.e., subsonic and sonic flow conditions and that a conversion of the results from Equation W-11A and W-11B to standard conditions is required prior to use in Equation W-12. Omitting the step of converting actual to standard conditions results in a lower flowrate output from Equation W-11A or Equation W-11B, which corresponds to a lower emissions calculation in Equation W-10A. In this proposed rule, EPA proposes to add a reference to 40 CFR 98.233(t) in the parameter definition $FR_{s,p}$ to convert FR_a to standard conditions. Furthermore, to eliminate this potential ambiguity and make the equations more explicit, the EPA is proposing to insert the word "actual" in the definition of flow rate, FR , and also add a

subscript "a." Finally, EPA proposes to clarify the definition of orifice cross sectional area, "A" to state "Cross sectional open area of the restriction orifice (m^2)."

The EPA is proposing to clarify that the flow volume variable $FV_{s,p}$ in Equation W-10B is at standard cubic feet, which is a volume unit as opposed to the standard cubic feet per hour flow rate unit in the December 2011 final rule. Although the engineering equations in subpart W more commonly use flow rates as units of measurement, the use of flow volumes in equation W-10B is similar to the use of flow volume in 40 CFR 98.233(n), which includes provisions for reporters to calculate their flow volumes in standard cubic feet as opposed to a cubic feet per hour flow rate value.

Finally, the EPA is proposing to provide reporters with the option to take and use more than the prescribed number of sample measurements per sub-basin and well type (horizontal or vertical). As described above for a similar proposed amendment for well venting for liquids unloading, the EPA notes that this would not change the burden to reporters, but would allow reporters to account for any additional samples that they may have already taken.

Gas Well Venting During Completions and Workovers Without Hydraulic Fracturing. The EPA is proposing amendments to clarify that the output of Equation W-13 is a sum of emissions from all

completions and workovers without hydraulic fracturing within a sub-basin.

Blowdown Vent Stacks. The EPA is proposing to revise the nomenclature of two terms in Equations W-14A and W-14B. First, the EPA is revising the parameter " $E_{s,n}$ " in the parameter description to match the term in the Equation W-14B. Second, the EPA is revising the term " T_a " to " $T_{a,p}$ " in Equation W-14B to clarify the intent of the equation, which allows the reporter to input the temperature in actual conditions for each blowdown event "p."

Onshore Production Storage Tanks. The EPA is proposing to revise 40 CFR 98.233(j)(5) to clarify that the term "throughput" refers to "average daily throughput of oil" consistent with similar changes made elsewhere in 40 CFR 98.233(j) during the December 23, 2011 technical corrections final rule. The EPA is also proposing to revise the definition of "Count" in Equation W-15 of 40 CFR 98.233(j)(5) to clarify that the reporters are to only count the separators or wells that feed oil directly to the storage tank. The count should not include separators that feed oil to other separators. The EPA is also proposing to revise the parameter definition of "1000" to accurately describe the conversion occurring through this parameter.

Well Testing Venting and Flaring. The EPA is proposing to revise the definition of "PR" in Equation W-17B of 40 CFR

98.233(l)(3) to clarify that the production rate is in actual and not standard conditions.

Flare Stack Emissions. The EPA is proposing to remove and reserve 40 CFR 98.233(n)(7) to harmonize the language with the reporting requirements in 40 CFR 98.236, which requires emissions to be reported separately for combusted CO₂, uncombusted CO₂, and uncombusted CH₄. This deletion would remove an undesired calculation.

Centrifugal and Reciprocating Compressors. The EPA is proposing to make technical corrections to Equations W-23, W-24, W-27, and W-28 to provide the proper notation for the summations in those equations so that owners and operators may correctly calculate GHG emissions from centrifugal and reciprocating compressors. Although EPA recognizes that additional clarifications to the definitions in the parameters to these equations could be helpful to owners and operators, the EPA has not proposed any substantive changes in this action. This is because, following the publication of subpart W in the Federal Register in 2010, several industry groups requested reconsideration of several provisions in the final rule, including the reciprocating and centrifugal compressor monitoring requirements. At present, we are merely making technical corrections to the existing equations in the rule, and are not granting reconsideration of the compressor requirements

or any other issues raised in those petitions for reconsideration in this action. We will consider the compressor monitoring requirements at a later time.

Finally, the EPA is proposing to revise the definition of parameter EF_i in Equation W-25 in 40 CFR 98.233(o)(7) by deleting the term "thousand" to eliminate an unnecessary unit conversion.

Population Count and Emission Factors. We are also proposing to amend an incorrect reference in 40 CFR 98.233(r)(2) to "Table W-1A" to Subpart A of Part 98 instead of "Table 1-A."

Finally, in 40 CFR 98.233(r)(6)(ii), we are proposing to revise the term "meter or regulator" and replace it with "meter/regulator," for consistency with the term prescribed in the definition in 40 CFR 98.238.

Volumetric emissions. The EPA is proposing to revise 40 CFR 98.233(t) to clarify that reporters do not need to alter their calculation results to standard conditions if the results already reflect standard conditions.

GHG mass emissions. The EPA is proposing to revise the definition of parameter " ρ_i " in Equation W-36 to amend the density value of CH_4 to be 0.0192 kg/ft^3 in Equation W-36. The current density value of 0.04220 is the density of CH_4 in lb/ft^3 . In the required units of kg/ft^3 , the density value for CH_4 should be 0.0192 kg/ft^3 .

Onshore Production and Distribution Combustion Emissions.

The EPA is proposing to replace the parameter "ECO₂" with "E_{a,CO2}" in the parameter definition for Equation W-39A in 40 CFR 98.233(z)(2)(iii) to match the parameters in the equation. Finally, the EPA is proposing to revise the definition of "HHV" in 40 CFR 98.233(z)(2)(vi) to reflect the correct term represented by the acronym.

Data Reporting Requirements. The EPA is proposing amendments to specific provisions within 40 CFR 98.236. These changes are intended to clarify terms, correct references, and remove extraneous terms.

First, the EPA is proposing to amend 40 CFR 98.236(c)(5)(ii)(D) to clarify that the average internal casing diameter of all wells, as opposed to each well, must be reported.

Second, we propose to amend 40 CFR 98.236(c)(9) by removing the text, "using optical gas imaging instrument per 40 CFR 98.234(a) (refer to 40 CFR 98.233(k)), or acoustic leak detections of." This is because 40 CFR 98.233(k) allows the use of several monitoring methods for determining tank vapor vent stack emissions. The text in 40 CFR 98.236(c)(9) limits the reporters to optical gas imaging and acoustic leak detection, which is misleading.

The EPA is also proposing to amend 40 CFR 98.236(c)(13)(iii)(C) to correct for an error in the units associated with emissions from isolation valve leakage for centrifugal compressors measured using provisions in 40 CFR 98.233. Specifically, EPA is proposing to replace the units of "cubic feet per hour" with "metric tons of CO₂e for each gas" to align the units of this data reporting element to those of the general provisions of Part 98, 40 CFR 98.3(c)(4)(i), which require reporting of annual emissions in units of mass in metric tons of CO₂e. EPA seeks comment on this proposed amendment to correct the units for this data reporting element.

Next, the EPA is proposing to amend 40 CFR 98.236(c)(15)(i)(B) by updating the incorrect reference to "Equation W-30" to read "Equation W-30A." Similarly, the EPA is proposing to amend 40 CFR 98.236(c)(15)(i)(C) by updating the incorrect reference to Equation W-30 to read Equation W-30A. In 40 CFR 98.236(c)(15)(i)(C), the EPA proposes to delete the unnecessary reference to "parameter GHG_i."

In 40 CFR 98.236(c)(15)(ii)(A), the EPA is proposing to remove the text references to "(a)(4)" and "W-3" because the reporting requirements for pneumatic devices are already covered under 40 CFR 98.236(c)(1) and making this reference unnecessary. Similarly, the EPA is proposing to delete the reference to "(a)(8)" because the reporting requirements for population

counts in the natural gas distribution industry segment are already covered under 40 CFR 98.236(c)(16).

Finally, the EPA is proposing to delete "and CH₄" from the reporting requirements for EOR injection pumps in 40 CFR 98.236(c)(17)(v). The EPA clarified through the December 23, 2011 final rule that only CO₂ emissions must be calculated from EOR injection pump blowdowns (76 FR 80565). Although the calculation requirements were clarified in that rule, the harmonizing change was not made to remove CH₄ from the data reporting requirements. This proposed change would make the data reporting requirements consistent with the calculation procedures in Equation W-37.

Emission Factor Tables. First, we are proposing to revise the incorrect title of Table W-1A of subpart W by deleting "Table A-1A" and correcting it to "Table W-1A."

In the December 2011 technical corrections final rule (76 FR 80592), the emission factors were converted from a standard temperature of 68°F to a standard temperature of 60°F. The EPA inadvertently used an incorrect intermediary version of Table W-1A to convert the emission factor. In this proposed rule, the EPA is proposing to rectify the emission factors in Table W-1A using the correct version of Table W-1A from the November 2010 rule. We note that the EPA did receive technical comments on the actual default emission factor values in Table W-1A in the

December 2011 technical corrections final rule (see the Response to Comments document for the final rule, comment number EPA-HQ-OAR-2011-0147-0016, Excerpt 30). This proposed action merely proposes to correct the error that resulted in December 2011 from use of an incorrect intermediary table when the emission factors were converted from a standard temperature of 68°F to a standard temperature of 60°F. As stated in the Response to Comments document referenced above, the EPA may consider substantive changes to the default factors for future rulemakings.

The EPA made changes to the emission factors for the Eastern United States in December 2011 as result of comments on the calculation performed to derive these numbers. Similar changes were required for the pneumatic devices in the Western United States but were inadvertently not made in the December 2011 final rule. Therefore, the EPA is proposing to make a similar change to the pneumatic device emission factors for the Western United States.

Finally, we are proposing to amend Table W-5 to provide the cross-reference for footnote 2, by adding a reference associated with footnote 2 to Vapor Recovery Compressor.

3. Overview and Approach to Proposed CBI Determinations

In this action, the EPA is proposing a small number of revisions to the data reporting requirements affecting subpart W

reporters. Specifically, in this action, the EPA is proposing to make the following amendments:

- 40 CFR (c)(5)(ii)(D) to clarify that the average internal casing diameter must be reported for all wells, as opposed to each well.
- 40 CFR 98.236(c)(9) to align the reporting requirements with the corresponding calculation methodologies in 40 CFR 98.233(k) by removing erroneous text.
- 40 CFR 98.236(c)(13)(iii)(C) to correct the units of the reporting requirements.
- 40 CFR 98.236(c)(15)(i)(B) and (C) to remove incorrect references and citations.
- 40 CFR 98.236(c)(15)(ii)(A) to remove unnecessary text which if not removed results in redundancy for reporters.
- 40 CFR 98.236(c)(17)(v) to remove reporting of CH₄ to make the reporting requirements consistent with the calculation procedures.

For these data elements, the EPA proposed confidentiality determinations (for non-inputs), and deferral of reporting (for inputs) in a proposed action, Proposed Confidentiality Determinations for the Petroleum and Natural Gas Systems Source Category, and Amendments to Table A-7 of the Greenhouse Gas

Reporting Rule, published on February 24, 2012 (77 FR 11039).

These five amendments are minor clarifications that do not change the general meaning of the data elements and therefore would not affect the determinations or deferrals proposed in that action.

D. Subpart L - Fluorinated Gas Production

1. Background

In today's rule, we are proposing that greenhouse gas emissions be reported in a less detailed manner for the initial two years of reporting under subpart L. The proposed changes pertain only to subpart L, and would be a temporary change (i.e., for reporting years 2011 and 2012) to allow the EPA sufficient time to fully evaluate concerns recently raised by stakeholders that reporting and public availability of process-specific emissions of individual fluorinated GHGs may reveal trade secrets. Under subpart L, fluorinated gas producers are currently required to report greenhouse gas emissions by chemical for each process.⁷

On January 10, 2012, the EPA published proposed determinations regarding whether the Greenhouse Gas Reporting

⁷ Greenhouse gas emissions are currently required to be reported by chemical for each fluorinate gas production process, each fluorinated gas transformation process that is not part of a fluorinated gas production process, each fluorinated gas destruction process that is not part of a fluorinated gas production or transformation process, and venting of residual fluorinated GHGs (heels) from containers returned from the field (40 CFR 98.126(a)(2)).

Program data elements in eight subparts of Part 98, including subpart L, would or would not be entitled to confidential treatment under the CAA (77 FR 1434). In that proposed rule, the EPA proposed that the chemical identities and quantities of the fluorinated GHG emissions at the process-level, reported under subpart L, are "emission data." Under section 114 of the CAA, "emission data" are not eligible for confidential treatment. Two commenters on that proposed rule, the American Chemistry Council and 3M Company, raised concerns that the release of certain data elements that the EPA proposed to classify as emission data, and that therefore would not be eligible for treatment as confidential business information, would reveal trade secrets. 3M noted that, due to the uniqueness of its production processes, it may be the only U.S. producer of fluorinated gases that has these trade secret concerns. No other producer of fluorinated gases individually raised these concerns in either the subpart L or CBI rulemakings. Both commenters stated that the disclosure of the identity and quantities of the fluorinated GHGs emitted at the process level, from either process vents or fugitive sources, would reveal sensitive information regarding individual chemical production processes. 3M stated that process-level emission data contain specific information on reactants, byproducts, and products that would provide competitors with a detailed understanding of 3M's

manufacturing process. They noted that competitors with knowledge of fluorine chemistry could use such information to identify the particular manufacturing pathways used by 3M. Competitors could then duplicate these processes without having to incur research and development costs, placing 3M at a competitive disadvantage.

The American Chemistry Council and 3M Company also expressed concern that the disclosure of the identity and quantity of emissions at the process level could violate export control regulations. Specifically, the commenters stated that the release of some data elements would make public information that is subject to Export Administration Regulations (EAR) and International Traffic in Arms Regulations (ITAR) that prohibit public disclosure for reasons of "national security, anti-terrorism, nuclear non-proliferation, and chemical and biological weapons security." The commenters stated that the federal regulations not only control export of products, but also export of technical knowledge, such as the design of a product and production information, and that the release of process-level emission data may provide such insight into the design of a product or production information that is export controlled. The commenters stated that if the EPA attempted to protect export-controlled information from disclosure by implementing "an export control plan," this would be in conflict

with its position that emission data cannot be withheld from the public under the CAA.

EPA needs additional time to fully evaluate whether these concerns are justified and how the rule might be changed to balance these concerns with the need to obtain the data necessary to inform the development of future GHG policies and programs. Specifically, EPA needs additional time to consider these comments, better understand whether the concerns raised are unique to one facility/manufacturer, and evaluate whether a two-track approach with different levels of reporting for different facilities would be feasible. Memorandum: Potential Future Subpart L Options in the docket to this rulemaking (EPA-HQ-OAR-2011-0147) describes some possible alternative reporting frameworks. EPA is currently in the process of evaluating whether the potential options described in the memorandum would generate an adequate data set upon which to inform the development of future GHG policies and programs. We seek comment on whether the options presented would address the concerns raised by commenters. Although EPA is seeking comment on the alternatives presented in this memorandum, any changes to Part 98 would be made through a separate proposed action, including accompanying proposed regulatory text changes. That proposal, should there be one, would also include proposed confidentiality

determinations for any long-term proposed changes to the reporting requirements in subpart L.

2. Proposed Amendments

The EPA needs additional time to fully evaluate whether these concerns are warranted. As a result, we are proposing amendments that would apply for only reporting years 2011 and 2012 to allow the EPA sufficient time to evaluate these concerns, and if needed, to make permanent changes to the rule. We are proposing a new reporting element for reporting years 2011 and 2012, where owners and operators of facilities producing fluorinated gases would be required to report annual total facility-wide fluorinated GHG emissions, expressed in tons of CO₂e.⁸ The facilities would not be required to report process level emissions or individual fluorinated GHGs for reporting years 2011 and 2012. These amendments would apply to subpart L only. These proposed amendments do not change any other requirements of Part 98, including the requirement that these data elements be retained as records in a form that is suitable for expeditious inspection and review (required for all Part 98 records by 40 CFR 98.3(g)).

⁸ This would include emissions from all fluorinated gas production processes, all fluorinated gas transformation processes that are not part of a fluorinated gas production process, all fluorinated gas destruction processes that are not part of a fluorinated gas production process or a fluorinated gas transformation process, and venting of residual fluorinated GHGs from containers returned from the field.

This proposed action would not have any impact on the EPA's final rule issued on August 25, 2011 (76 FR 53057), which deferred the deadline for reporting subpart L data elements that are inputs to emission equations until March 31, 2015. The data elements listed in that action for which the reporting deadline was deferred until March 31, 2015 are still deferred until that date. For the data elements listed below, we are proposing in this action, that owners and operators of facilities producing fluorinated gases would not be required to submit the information until March 31, 2014 (unless the deferral of inputs action mentioned previously has already set forth a deferred reporting deadline of March 31, 2015).

- 40 CFR 98.3(c)(4)(iii)
- 40 CFR 98.126 (a)(2), (a)(3), (a)(4), (a)(6), (b), (c), (d), (e), (f), (g), and (h).

The data element at 40 CFR 98.3(c)(4)(iii) is the subpart A reporting requirement that requires reporting of greenhouse gas emissions by chemical for each subpart. Again, reporting of this data element would be deferred for reporting year 2011 and reporting year 2012 for subpart L only.

With these proposed changes, fluorinated gas producers would report, under subpart L, only the data elements in 40 CFR 98.126(a)(5) (the methods used) and in proposed paragraph 40 CFR

98.126(j) (for facility-level CO₂e emissions) for reporting year 2011 and reporting year 2012. Consistent with 40 CFR 98.126(e), a facility would need to include the excess emissions, converted to CO₂e, that result from malfunctions of the destruction device when reporting total facility CO₂e under 40 CFR 98.126(j).

However, as noted in 40 CFR 98.126(j), these excess emissions would not need to be reported separately but would be included in the facility-wide CO₂e reported. While reporters are still reporting 98.126(a)(5), we are proposing to amend this reporting element to require facilities to report the methods used to determine emissions at a facility-level rather than linking each method to a particular process.

We note that the data elements in 40 CFR 98.122(a) and (b) refer to reporting of GHGs under subpart C of part 98, General Stationary Fuel Combustion Sources, and the reporting of fluorinated GHGs under subpart O of part 98, HCFC-22 Production and HFC-23 Destruction, respectively, and we are not proposing to change them through this action.

To convert fluorinated GHG emissions into CO₂e, the EPA is proposing that facilities use Equation A-1 of subpart A. For fluorinated GHGs that do not have a GWP listed in Table A-1, facilities would be required either to use a default GWP or to use their best estimate of the GWP, based on the information

described in 40 CFR 98.123(c)(1)(vi)(A)(3).⁹ The default GWP used would depend on the type of fluorinated GHG. For fully fluorinated GHGs, the default GWP would be 10,000, which is based on the average GWP of the fully fluorinated GHGs on Table A-1. For the purposes of subpart L, EPA is proposing to define "fully fluorinated GHGs" as "fluorinated GHGs that contain only single bonds and in which all available valence locations are filled by fluorine atoms. This includes but is not limited to saturated perfluorocarbons, SF₆, NF₃, SF₅CF₃, fully fluorinated linear, branched and cyclic alkanes, fully fluorinated ethers, fully fluorinated tertiary amines, fully fluorinated aminoethers, and perfluoropolyethers." For other fluorinated GHGs, the default GWP would be 2,000, which is based on the average GWP of the other fluorinated GHGs on Table A-1. EPA is proposing to distinguish between fully fluorinated GHGs and other fluorinated GHGs because the former have significantly longer lifetimes and higher GWPs than the latter. EPA requests comment on the proposed definition of fully fluorinated GHGs and on the default GWPs.

We are proposing to add three new data elements that, if a facility used one or more default or best-estimate GWPs, it would be required to report the shares of its CO₂e emissions that

⁹ This is part of the provision of subpart L that allows facilities to request to use provisional GWPs to calculate whether they must use stack testing to establish an emission factor for a vent. Note that EPA is not proposing to approve best-estimate GWPs under this action.

were respectively based on the default and/or best estimate GWPs. This would enable the EPA to understand the potential impact of the default or best estimate GWPs on the overall estimated emissions of the facility. We are proposing that, facilities using best estimate GWPs be required to keep the GWPs, along with the data and analysis that were used to develop the GWPs, as records.

The EPA requests comment on the approach for assigning GWPs to fluorinated GHGs without GWPs on Table A-1. If commenters believe that another method should be used for calculating GWP values for chemicals not listed in Table A-1, they should provide details and rationale for the specific method that they recommend.

The EPA is proposing that the amendments described above apply for reporting year 2011 and reporting year 2012. Because the deadline for reporting year 2012 reporting is March 31, 2013, just six months after the reporting year 2011 reporting deadline, the EPA has determined that making these proposed amendments effective for two reporting years would allow sufficient time to fully evaluate the concerns raised as well as, if needed, make a permanent change to the rule. The EPA requests comment on whether these amendments should apply for only reporting year 2011 rather than for reporting year 2011 and reporting year 2012.

Because only one company raised concerns that reporting process-specific emissions by chemical would reveal trade secrets, the EPA is also requesting comment on giving fluorinated gas producers the option to report all of the subpart L data elements that are currently subject to a September 2012 reporting deadline. Fluorinated gas producers that have established tracking and reporting systems based on the current rule would then be able to report based on their current systems. At the same time, this approach would preserve chemical-by-chemical reporting at the process level where companies decide to report in this manner.

3. Overview and Approach to Proposed CBI Determinations

As discussed in Section II.D.2 of this preamble, the EPA is proposing amendments that would apply to subpart L for reporting years 2011 and 2012. Owners and operators would be required to report the facility's fluorinated GHG emissions only as an annual total expressed as CO₂e emissions as well as the shares of those emissions that were based on the default and/or best estimate GWPs.

The proposed amendment includes addition of these four reporting elements, which are listed below in Table 2 of this preamble.¹⁰

¹⁰ 76 FR 30782, May 26, 2011

Table 2. Proposed Reporting Data Elements and Confidentiality Determinations

	Citation	Data Element	Proposed Data Category (Finalized CBI Determination¹¹)
1	98.126(j)(3)	You must report the total fluorinated GHG emissions of the facility, expressed in tons of CO ₂ e.	Emissions (Emission Data: Made available to the public)
2	98.126(j)(3)(ii)	Provide the total annual emissions across fluorinated GHGs for the entire facility, in metric tons of CO ₂ e, that were calculated using the default GWP of 2000.	Emissions (Emission Data: Made available to the public)
3	98.126(j)(3)(iii)	Provide the total annual emissions across fluorinated GHGs for the entire facility, in metric tons of CO ₂ e, that were calculated using the default GWP of 10,000.	Emissions (Emission Data: Made available to the public)
4	98.126(j)(3)(iv)	Provide the total annual emissions across fluorinated GHGs for the entire facility, in metric tons of CO ₂ e, that were calculated using your best estimate of the GWP.	Emissions (Emission Data: Made available to the public)

In conjunction with the proposed addition of the four data elements identified above, we are proposing confidentiality determinations for these data elements. Because these four data elements describe emissions exhausted to the atmosphere, we are proposing to assign these proposed data elements to the "Emissions" category. These proposed data elements are exactly the same type of data (i.e., information regarding the quantity of GHG emissions to the atmosphere) as all of the other data elements previously categorized in the "Emissions" data category in the Final CBI rule. As mentioned above, in the Final CBI

¹¹ The CBI determinations of these data categories were finalized in the Final CBI Rule (May 26, 2011, 76 FR 30782).

rule, the EPA determined that the data elements in this data category are "emission data" under CAA section 114(c) and 40 CFR 2.301(a)(2)(i). Since the proposed data elements are the same as the data elements previously finalized in the "Emissions" data category, we propose that the determination applied to that category also applies to these four proposed data elements, and that these data elements would not be eligible for CBI treatment.

As mentioned above, we are also proposing to amend the reporting requirement in 98.126(a)(5); however, the proposed amendment is a minor change in which facilities are reporting the methods used to determine emissions at a facility-level rather than linking each method to a particular process. Because the same information would be reported (without being linked to a particular process), this change does not affect the proposed confidentiality determination that was made for this data element in a recent proposal.¹² As a result, we are not proposing a confidentiality determination for this data element.

III. Statutory and Executive Order Reviews

A. Executive Order 12866: Regulatory Planning and Review and Executive Order 13563: Improving Regulation and Regulatory Review

¹² 77 FR 1434, January 10, 2012.

This action is not a "significant regulatory action" under the terms of Executive Order 12866 (58 FR 51735, October 4, 1993) and is therefore not subject to review under Executive Orders 12866 and 13563 (76 FR 3821, January 21, 2011).

B. Paperwork Reduction Act

This action does not impose any new information collection burden. These proposed amendments do not make any substantive changes to the reporting requirements in any of the subparts for which amendments are being proposed. In many cases, the proposed amendments could potentially reduce the reporting burden by making the monitoring and reporting requirements more clear and to more closely conform to industry practices. However, the OMB has previously approved the information collection requirements for subparts A on October 30, 2009, subpart L on December 1, 2010, subpart W promulgated on November 30, 2010, subpart TT promulgated on July 12, 2010 under 40 CFR part 98 under the provisions of the Paperwork Reduction Act, 44 U.S.C. 3501 et seq., and has assigned OMB control numbers 2060-0629; 2060-0650; and 2060-0647; and 2060-0649 respectively. The OMB control numbers for the EPA's regulations in 40 CFR are listed in 40 CFR part 9.

Further information on the EPA's assessment on the impact on burden can be found in the 2012 Technical Corrections and Amendments Cost Memo in docket number EPA-HQ-OAR-2011-0147.

C. Regulatory Flexibility Act (RFA)

The RFA generally requires an agency to prepare a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements under the Administrative Procedure Act or any other statute unless the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small organizations, and small governmental jurisdictions.

For purposes of assessing the impacts of this proposed rule on small entities, small entity is defined as: (1) a small business as defined by the Small Business Administration's regulations at 13 CFR 121.201; (2) a small governmental jurisdiction that is a government of a city, county, town, school district or special district with a population of less than 50,000; and (3) a small organization that is any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.

After considering the economic impacts of these proposed rule amendments on small entities, I certify that this action will not have a significant economic impact on a substantial number of small entities. The proposed rule amendments will not impose any new requirement on small entities that are not currently required by the regulation of subpart A promulgated on

October 30, 2009; subpart TT promulgated on July 12, 2010; subpart W promulgated on November 30, 2010, or subpart L promulgated on December 1, 2010.

Based on the proposed amendments in this action, the EPA has provided clarity to address ambiguity in the rule provisions, and has proposed corrections where necessary to assist reporters in implementation of these subparts.

Further, the EPA took several steps to reduce the impact of 40 CFR part 98 on small entities when developing the final GHG reporting rules in 2009 and 2010. For example, the EPA determined appropriate thresholds that reduced the number of small businesses reporting. In addition, the EPA conducted several meetings with industry associations to discuss regulatory options and the corresponding burden on industry, such as recordkeeping and reporting. Finally, the EPA continues to conduct significant outreach on the GHG reporting program and maintains an "open door" policy for stakeholders to help inform the EPA's understanding of key issues for the industries.

D. Unfunded Mandates Reform Act (UMRA)

The proposed rule amendments do not contain a Federal mandate that may result in expenditures of \$100 million or more for State, local, and tribal governments, in the aggregate, or the private sector in any one year. Thus, the proposed rule amendments are not subject to the requirements of section 202

and 205 of the UMRA. This rule is also not subject to the requirements of section 203 of UMRA because it contains no regulatory requirements that might significantly or uniquely affect small governments. The proposed amendments will not impose any new requirements that are not currently required for 40 CFR part 98, and the rule amendments would not unfairly apply to small governments. Therefore, this action is not subject to the requirements of section 203 of the UMRA.

E. Executive Order 13132: Federalism

This action does not have federalism implications. It will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132. For a more detailed discussion about how Part 98 relates to existing state programs, please see Section II of the preamble to the final Greenhouse Gas Reporting Rule (74 FR 56266, October 30, 2009).

These amendments apply directly to facilities that supply certain products that would result in GHGs when released, combusted or oxidized and facilities that directly emit greenhouses gases. They do not apply to governmental entities unless the government entity owns a facility that directly emits GHGs above threshold levels (such as a landfill), so relatively

few government facilities would be affected. This regulation also does not limit the power of States or localities to collect GHG data and/or regulate GHG emissions. Thus, Executive Order 13132 does not apply to this action.

Although section 6 of Executive Order 13132 does not apply to this action, the EPA did consult with State and local officials or representatives of State and local governments in developing subparts A on October 30, 2009; subpart TT promulgated on July 12, 2010; subpart W promulgated on November 30, 2010; and subpart L promulgated on December 1, 2010. A summary of the EPA's consultations with State and local governments is provided in Section VIII.E of the preamble to the 2009 final rule.

In the spirit of Executive Order 13132, and consistent with EPA policy to promote communications between EPA and State and local governments, the EPA specifically solicits comment on this proposed action from State and local officials.

F. Executive Order 13175: Consultation and Coordination with Indian Tribal Governments

This action does not have tribal implications, as specified in Executive Order 13175 (65 FR 67249, November 9, 2000). The proposed rule amendments would not result in any changes to the current requirements of 40 CFR part 98. Thus, Executive Order 13175 does not apply to this action.

Although Executive Order 13175 does not apply to this action, the EPA sought opportunities to provide information to Tribal governments and representatives during the development of the rules for subparts A on October 30, 2009; subpart TT promulgated on July 12, 2010; subpart W promulgated on November 30, 2010, and subpart L promulgated on December 1, 2010. A summary of the EPA's consultations with Tribal officials is provided Sections VIII.E and VIII.F of the preamble to the 2009 final rule and in Section IV.F of the final rule for subpart W.

G. Executive Order 13045: Protection of Children from Environmental Health Risks and Safety Risks

The EPA interprets Executive Order 13045 (62 FR 19885, April 23, 1997) as applying only to those regulatory actions that concern health or safety risks, such that the analysis required under section 5-501 of the Executive Order has the potential to influence the regulation. This action is not subject to Executive Order 13045 because it does not establish an environmental standard intended to mitigate health or safety risks.

H. Executive Order 13211: Actions that Significantly Affect Energy Supply, Distribution, or Use

This action is not subject to Executive Order 13211 (66 FR 28355, May 22, 2001), because it is not a significant regulatory action under Executive Order 12866.

I. National Technology Transfer and Advancement Act

Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (NTTAA), Public Law No. 104-113 (15 U.S.C. 272 note) directs the EPA to use voluntary consensus standards in its regulatory activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (e.g., materials specifications, test methods, sampling procedures, and business practices) that are developed or adopted by voluntary consensus standards bodies. NTTAA directs the EPA to provide Congress, through OMB, explanations when the EPA decides not to use available and applicable voluntary consensus standards.

This proposed rulemaking does not involve technical standards. Therefore, the EPA is not considering the use of any voluntary consensus standards.

J. Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations

Executive Order 12898 (59 FR 7629, February 16, 1994) establishes Federal executive policy on environmental justice. Its main provision directs Federal agencies, to the greatest extent practicable and permitted by law, to make environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or

environmental effects of their programs, policies, and activities on minority populations and low-income populations in the United States.

The EPA has determined that this proposed rule will not have disproportionately high and adverse human health or environmental effects on minority or low-income populations because it does not affect the level of protection provided to human health or the environment because it is a rule addressing information collection and reporting procedures.

List of Subjects in 40 CFR Part 98

Environmental protection, Administrative practice and procedure, Greenhouse gases, Suppliers, Reporting and recordkeeping requirements.

Dated: May 11, 2012

Lisa P. Jackson,
Administrator.

For the reasons stated in the preamble, title 40, chapter I, of the Code of Federal Regulations is proposed to be amended as follows:

PART 98—[AMENDED]

1. The authority citation for part 98 continues to read as follows:

Authority: 42 U.S.C. 7401 et seq.

Subpart A—[Amended]

2. Section 98.3 is amended by:

- a. Revising paragraph (c) (4) (i).
- b. Revising paragraph (c) (4) (iii) (E).
- c. Adding paragraph (c) (4) (iii) (F).
- d. Revising paragraph (c) (4) (vi).

The revisions read as follows:

§98.3 What are the monitoring, reporting, recordkeeping and verification requirements of this part?

* * * * *

(c) * * *

(4) * * *

(i) Annual emissions (excluding biogenic CO₂) aggregated for all GHG from all applicable source categories, expressed in metric tons of CO₂e calculated using Equation A-1 of this subpart. For electronics manufacturing (as defined in §98.90), starting in reporting year 2012 the CO₂e calculation must include

each fluorinated heat transfer fluid (as defined in §98.98) whether or not it is also a fluorinated GHG.

* * * * *

(iii) * * *

(E) Each fluorinated GHG (as defined in §98.6), including those not listed in Table A-1 of this subpart.

(F) For electronics manufacturing (as defined in §98.90), each fluorinated heat transfer fluid (as defined in §98.98) that is not also a fluorinated GHG as specified under (c)(4)(iii)(E). This requirement applies beginning in reporting year 2012.

* * * * *

(vi) When applying paragraph (c)(4)(i) of this section to fluorinated GHGs and fluorinated heat transfer fluids, calculate and report CO₂e for only those fluorinated GHGs and fluorinated heat transfer fluids listed in Table A-1 of this subpart.

* * * * *

3. Table A-7 to subpart A of part 98 is amended by revising the entries for subpart L to read as follows:

Table A-7 to Subpart A of Part 98--Data Elements that Are Inputs to Emission Equations and for Which the Reporting Deadline Is March 31, 2015

Subpart	Rule Citation (40 CFR part 98)	Specific Data Elements for Which Reporting Date is March 31, 2015 ("All" means all data elements in the cited paragraph are not required to be reported until March 31, 2015)
* * * * *	* * * * *	

Subpart	Rule Citation (40 CFR part 98)	Specific Data Elements for Which Reporting Date is March 31, 2015 ("All" means all data elements in the cited paragraph are not required to be reported until March 31, 2015)
L	98.126 (b) (1)	Only data used in calculating the absolute errors and data used in calculating the relative errors.
L	98.126 (b) (2)	All.
L	98.126 (b) (6)	Only mass of each fluorine-containing reactant fed into the process.
L	98.126 (b) (7)	Only mass of each fluorine-containing product produced by the process.
L	98.126 (b) (8) (i)	Only mass of each fluorine-containing product that is removed from the process and fed into the destruction device.
L	98.126 (b) (8) (ii)	Only mass of each fluorine-containing by-product that is removed from the process and fed into the destruction device.
L	98.126 (b) (8) (iii)	Only mass of each fluorine-containing reactant that is removed from the process and fed into the destruction device.
L	98.126 (b) (8) (iv)	Only mass of each fluorine-containing by-product that is removed from the process and recaptured.
L	98.126 (b) (8) (v)	All.
L	98.126 (b) (9) (i)	All.

Subpart	Rule Citation (40 CFR part 98)	Specific Data Elements for Which Reporting Date is March 31, 2015 ("All" means all data elements in the cited paragraph are not required to be reported until March 31, 2015)
L	98.126 (b) (9) (ii)	All.
L	98.126 (b) (9) (iii)	All.
L	98.126 (b) (10)	All.
L	98.126 (b) (11)	All.
L	98.126 (b) (12)	All.
L	98.126 (c) (1)	Only quantity of the process activity used to estimate emissions.
L	98.126 (c) (2)	All.
L	98.126 (d)	Only estimate of missing data.
L	98.126 (f) (1)	All.
L	98.126 (g) (1)	All.
L	98.126 (h) (2)	All.
* * * * *		

Subpart L—[Amended]

4. Section 98.126 is amended by:

- a. Revising paragraph (a) introductory text.
- b. Revising paragraph (a) (5).
- c. Adding paragraph (j).

The revisions read as follows:

§98.126 Data Reporting Requirements.

(a) All facilities. In addition to the information required by §98.3(c), you must report the information in paragraphs (a) (2) through (a) (6) of this section according to the schedule in paragraph (a) (1) of this section, except as otherwise

provided in paragraph (j) of this section or in §98.3(c)(4)(vii) and Table A-7 of Subpart A of this part.

* * * * *

(5) The methods used to determine the mass emissions of each fluorinated GHG, i.e., mass balance, process-vent-specific emission factor, or process-vent-specific emission calculation factor, at the facility. If you use the process-vent-specific emission factor or process-vent-specific emission calculation factor method, report the methods used to estimate emissions from equipment leaks.

* * * * *

(j) Special Provisions for Reporting Years 2011 and 2012 Only. For reporting years 2011 and 2012, the owner or operator of a facility must comply with paragraphs (j)(1), (j)(2), and (j)(3) of this section.

(1) Timing. The owner or operator of a facility is not required to report the data elements at §98.3(c)(4)(iii) and §98.126(a)(2), (a)(3), (a)(4), (a)(6), (b), (c), (d), (e), (f), (g), and (h) of this section until the later of March 31, 2014 or the date set forth for that data element at §98.3(c)(4)(vii) and Table A-7 of Subpart A of this part.

(2) Excess emissions. Excess emissions of fluorinated GHGs resulting from destruction device malfunctions must be reflected

in the reported facility-wide CO₂e emissions but are not required to be reported separately.

(3) Calculation and Reporting of CO₂e. You must report the total fluorinated GHG emissions covered by this subpart, expressed in metric tons of CO₂e. This includes emissions from all fluorinated gas production processes, all fluorinated gas transformation processes that are not part of a fluorinated gas production process, all fluorinated gas destruction processes that are not part of a fluorinated gas production process or a fluorinated gas transformation process, and venting of residual fluorinated GHGs from containers returned from the field. To convert fluorinated GHG emissions to CO₂e for reporting under this section, use Equation A-1 of §98.2. For fluorinated GHGs whose GWPs are not listed in Table A-1 of Subpart A of this subpart, use either the default GWP specified below or your best estimate of the GWP based on the information described in §98.123(c)(1)(vi)(A)(3).

(i) If you choose to use a default GWP rather than your best estimate of the GWP for fluorinated GHGs whose GWPs are not listed in Table A-1 to this subpart, use a default GWP of 10,000 for fluorinated GHGs that are fully fluorinated GHGs and use a default GWP of 2000 for other fluorinated GHGs.

(ii) Provide the total annual emissions across fluorinated GHGs for the entire facility, in metric tons of CO₂e, that were calculated using the default GWP of 2000.

(iii) Provide the total annual emissions across fluorinated GHGs for the entire facility, in metric tons of CO₂e, that were calculated using the default GWP of 10,000.

(iv) Provide the total annual emissions across fluorinated GHGs for the entire facility, in metric tons of CO₂e, that were calculated using your best estimate of the GWP.

5. Section 98.127 is amended by adding paragraph (k) to read as follows:

§98.127 Records that must be retained.

* * * * *

(k) For fluorinated GHGs whose GWPs are not listed in Table A-1 to this subpart, maintain records of the GWPs used to calculate facility-wide CO₂e emissions. Where you used your best estimate of the GWP, maintain records of the data and analysis used to develop that GWP, including the data elements at §98.123(c)(1)(vi)(A)(1) - (3).

6. Section 98.128 is amended by adding the definition of "Fully fluorinated GHGs" in alphabetical order to read as follows:

§98.128 Definitions.

* * * * *

Fully fluorinated GHGs means fluorinated GHGs that contain only single bonds and in which all available valence locations are filled by fluorine atoms. This includes but is not limited to saturated perfluorocarbons, SF_6 , NF_3 , SF_5CF_3 , fully fluorinated linear, branched and cyclic alkanes, fully fluorinated ethers, fully fluorinated tertiary amines, fully fluorinated aminoethers, and perfluoropolyethers.

* * * * *

Subpart W—[Amended]

7. Section 98.233 is amended by:

- a. In paragraph (e)(5), revising Equation W-6.
- b. Revising paragraph (f)(1) introductory text, Equation W-7 and, the definitions of parameters " T_p " and " FR_p " in Equation W-7.
- c. Revising paragraph (f)(1)(i) introductory text and paragraph (f)(1)(i)(A).
- d. In paragraph (f)(2), revising Equation W-8 and the definitions of parameters " SP_p ", " V_p ", and " $HR_{p,q}$ " in Equation W-8.
- e. Revising (f)(3) introductory text, Equation W-9 and the definitions of parameters " W ", " V_p ", and " $HR_{p,q}$ " in Equation W-9.
- f. In paragraph (g), revising Equations W-10A and W-10B and the definitions of " FRM ", " PR_p ", " EnF_p ", " SG_p ", and " FV_p ".
- g. Revising paragraph (g)(1) introductory text.

h. In paragraph (g)(1)(ii), revising Equations W-11A and W-11B, and revising the definition of "FR" and "A" in both Equations W-11A and W-11B.

i. In paragraph (g)(1)(iii), revising Equation W-12 and the definitions of "FRM", "FRp", and "PRp"; removing the definition of "W"; and adding the definition of "N."

j. Revising paragraph (g)(3)(i).

k. In paragraph (h), revising the definition of parameter " $E_{s,n}$ " in Equation W-13.

l. In paragraph (i)(3), revising the definition of " $E_{s,N}$ " in Equation W-14A, revising Equation W-14B and the definition of " T_a " in Equation W-14B.

m. Revising paragraph (j)(5) introductory text and the definitions "Count" and "1,000" in Equation W-15.

n. In paragraph (l)(3), revising the definition of "PR" in Equation W-17B.

o. Removing and reserving paragraph (n)(7).

p. In paragraph (o)(5), revising Equation W-23.

q. In paragraph (o)(6), revising Equation W-24.

r. In paragraph (o)(7), revising the definition of " EF_i " in Equation W-25.

s. In paragraph (p)(7), revising Equation W-27.

t. In paragraph (p)(7)(i), revising Equation W-28.

u. Revising paragraph (r)(2) introductory text.

v. Revising paragraph (r)(6)(ii) introductory text.

w. Revising paragraph (t) introductory text, (t)(1) introductory text, and the definition of " $E_{s,n}$ " and " $E_{a,n}$ " in Equation W-33.

x. In paragraph (v), revising the definition of " ρ_i " in Equation W-36.

y. In paragraph (z)(2)(iii), revising the definition of " E_{CO_2} " in Equations W-39A and W-39B.

z. In paragraph (z)(2)(vi), revising the definition of parameter "HHV" in Equation W-40.

The revisions read as follows:

§98.233 Calculating GHG emissions.

* * * * *

(e) * * *

(5) * * *

$$E_{s,n} = \frac{(H \cdot D^2 \cdot P \cdot P_2 \cdot \%G \cdot 365 \text{days/yr})}{(4 \cdot P_1 \cdot T \cdot 100)} \quad (\text{Eq. W-6})$$

Where:

$E_{s,n}$ = Annual natural gas emissions at standard conditions in cubic feet.

H = Height of the dehydrator vessel (ft).

D = Inside diameter of the vessel (ft).

P_1 = Atmospheric pressure (psia).

P_2 = Pressure of the gas (psia).

P = pi (3.14).

%G = Percent of packed vessel volume that is gas.

T = Time between refilling (days).

100 = Conversion of %G to fraction.

* * * * *

(f) * * *

(1) Calculation Methodology 1. For at least one well of each unique well tubing diameter group and pressure group combination in each sub-basin category (see §98.238 for the definitions of tubing diameter group, pressure group, and sub-basin category), where gas wells are vented to the atmosphere to expel liquids accumulated in the tubing, a recording flow meter shall be installed on the vent line used to vent gas from the well (e.g., on the vent line off the wellhead separator or atmospheric storage tank) according to methods set forth in §98.234(b). Calculate emissions from well venting for liquids unloading using Equation W-7 of this section.

$$E_{a,n} = \sum_{p=1}^h T_p FR \quad (\text{Eq. W-7})$$

* * * * *

T_p = Cumulative amount of time in hours of venting for each well, p, of the same tubing diameter group and pressure group combination in a sub-basin during the year.

FR = Average flow rate in cubic feet per hour for all measured wells venting for the duration of the liquids unloading, under actual conditions as determined in paragraph (f)(1)(i) of this section.

(i) Determine the well vent average flow rate as specified under paragraph (f)(1)(i) of this section for at least one well

in a unique well tubing diameter group and pressure group combination in each sub-basin category.

(A) The average flow rate per hour of venting is calculated for each unique tubing diameter group and pressure group combination in each sub-basin category by dividing the recorded total flow by the recorded time (in hours) for all measured liquid unloading events with venting to the atmosphere.

* * * * *

(2) * * *

$$E_{s,n} = \sum_{p=1}^W \left[V_p \times \left((0.37 \times 10^{-3}) \times CD_p^2 \times WD_p \times SP_p \right) + \sum_{q=1}^{V_p} \left(SFR_p \times (HR_{p,q} - 1.0) \times Z_{p,q} \right) \right] \quad W-8$$

* * * * *

SP_p = Shut-in pressure or surface pressure for wells with tubing production and no packers or casing pressure for each well, p, in pounds per square inch absolute (psia) or casing-to-tubing pressure ratio of one well from the same sub-basin multiplied by the tubing pressure of each well, p, in the sub-basin, in pounds per square inch absolute (psia).

V_p = Number of unloading events per year per well, p.

* * * * *

HR_{p,q} = Hours that each well, p, was left open to the atmosphere during each unloading event, q.

* * * * *

(3) Calculation Methodology 3. Calculate emissions from well venting to the atmosphere for liquids unloading with plunger lift assist using Equation W-9 of this section.

$$E_{s,n} = \sum_{p=1}^W \left[V_p \times \left((0.37 \times 10^{-3}) \times TD_p^2 \times WD_p \times SP_p \right) + \sum_{q=1}^{V_p} \left(SFR_p \times (HR_{p,q} - 0.5) \times Z_{p,q} \right) \right] \quad \text{W-9}$$

* * *

W = Total number of wells with plunger lift assist and well venting for liquids unloading for each sub-basin.

* * *

V_p = Number of unloading events per year for each well, p.

* * *

HR_{p,q} = Hours that each well, p, was left open to the atmosphere during each unloading event, q.

* * *

(g) * *

$$E_{s,n} = \sum_{p=1}^W \left[T_p \times FRM_s \times PR_{s,p} - EnF_{s,p} - SG_{s,p} \right] \quad (\text{Eq. W-10A})$$

$$E_{s,n} = \sum_{p=1}^W \left[FV_{s,p} - EnF_{s,p} \right] \quad (\text{Eq. W-10B})$$

* * *

FRM_s = Ratio of flowback during well completions and workovers from hydraulic fracturing to 30-day production rate from Equation W-12.

PR_{s,p} = First 30-day average production flow rate in standard cubic feet per hour of each well p, under actual conditions, converted to standard conditions, as required in paragraph (g) (1) of this section.

EnF_{s,p} = Volume of CO₂ or N₂ injected gas in cubic feet at standard conditions that was injected into the

reservoir during an energized fracture job for each well p. If the fracture process did not inject gas into the reservoir, then EnF_p is 0. If injected gas is CO_2 then EnF_p is 0.

$SG_{s,p}$ = Volume of natural gas in cubic feet at standard conditions that was recovered into a flow-line for well p as per paragraph (g)(3) of this section. This parameter includes any natural gas that is injected into the well for clean-up. If no gas was recovered, SG_p is 0.

$FV_{s,p}$ = Flow volume of each well (p) in standard cubic feet measured using a recording flow meter (digital or analog) on the vent line to measure flowback during the completion or workover according to methods set forth in §98.234(b).

(1) The average flow rate for flowback during well completions and workovers from hydraulic fracturing shall be determined using measurement(s) for calculation methodology 1 or calculation(s) for calculation methodology 2 described in this paragraph (g)(1) of this section. If Equation W-10A is used, the number of measurements or calculations shall be determined per sub-basin and well type (horizontal or vertical) as follows: at least one measurement or calculation for less than or equal to 25 completions or workovers; at least two measurements or calculations for 26 to 50 completions or workovers; at least three measurements or calculations for 51 to 100 completions or workovers; at least four measurements or calculations for 101 to 250 completions or workovers; and at least five measurements or calculations for greater than 250 completions or workovers.

* * * * *

(ii) * * *

$$FR_a = 1.27 * 10^5 * A * \sqrt{3430 * T_u * \left[\left(\frac{P_2}{P_1} \right)^{1.515} - \left(\frac{P_2}{P_1} \right)^{1.758} \right]} \quad (\text{Eq. W-11A})$$

Where:

FR_a = Average flow rate in cubic feet per hour, under actual subsonic flow conditions.

A = Cross sectional open area of the restriction orifice (m²).

* * *

$$FR_a = 1.27 * 10^5 * A * \sqrt{187.08 * T_u} \quad (\text{Eq. W-11B})$$

Where:

FR_a = Average flow rate in cubic feet per hour, under actual sonic flow conditions.

A = Cross sectional open area of the restriction orifice (m²).

* * *

(iii) * * *

$$FRM_s = \frac{\sum_{p=1}^N FR_{s,p}}{\sum_{p=1}^N PR_{s,p}} \quad (\text{Eq. W-12})$$

Where:

FRM_s = Ratio of flowback rate during well completions and workovers from hydraulic fracturing to 30-day production rate.

FR_{s,p} = Measured flowback rate from Calculation Methodology 1 described in paragraph (g)(1)(i) of this section or calculated flow rate from Calculation Methodology 2 described in paragraph (g)(1)(ii) of this section in

standard cubic feet per hour for well(s) p for each sub-basin and well type (horizontal or vertical) combination. Measured and calculated FR_a values shall be converted from actual conditions (FR_a) to standard conditions ($FR_{s,p}$) for each well p using Equation W-33 in paragraph (t) of this section. You may not use flow volume as used in Equation W-10B converted to a flow rate for this parameter.

$PR_{s,p}$ = First 30-day production rate in standard cubic feet per hour for each well p that was measured in the sub-basin and well type combination.

N = Number of measured or calculated well completions or workovers using hydraulic fracturing in a sub-basin and well type formation.

* * *

(3) * *

(i) Use the factor $SG_{s,p}$ in Equation W-10A of this section, to adjust the emissions estimated in paragraphs (g)(1) through (g)(4) of this section by the magnitude of emissions captured using purpose designed equipment that separates saleable gas from the flowback as determined by engineering estimate based on best available data.

* * *

(h) * *

* * *

$E_{s,n}$ = Annual natural gas emissions in standard cubic feet from gas well venting during well completions and workovers without hydraulic fracturing.

* * *

(i) * *

(3) * *

* * * *

$E_{s,n}$ = Annual natural gas venting emissions at standard conditions from blowdowns in cubic feet.

* * * *

$$E_{s,n} = \sum_{p=1}^N \left[V \left(\frac{(459.67 + T_s)(P_{a,b,p} - P_{a,e,p})}{(459.67 + T_{a,p})P_s} \right) \right] \quad (\text{Eq. W-14B})$$

* * * *

$T_{a,p}$ = Temperature at actual conditions in the unique physical volume (°F) for each blowdown "p".

* * * *

(j) * *

(5) Calculation Methodology 5. For well pad gas-liquid separators and for wells flowing off a well pad without passing through a gas-liquid separator with annual average daily throughput of oil less than 10 barrels per day use Equation W-15 of this section:

* * * *

Count = Total number of separators or wells with annual average daily throughput less than 10 barrels per day. Count only separators or wells that feed oil directly to the storage tank.

1,000 = Conversion from thousand standard cubic feet to standard cubic feet.

* * * *

(1) * *

(3) * *

* * * *

PR = Average annual production rate in actual cubic feet per day for the gas well(s) being tested.

* * *

(o) * *

(5) * *

$$E_{s,i} = EF_m * T_m * GHG_i \quad (\text{Eq. W-23})$$

* * *

(6) * *

$$EF_m = \frac{\sum_{p=1}^{Count_m} MT_{m,p}}{Count_m} \quad (\text{Eq. W-24})$$

* * *

(7) * *

* * *

EF_i = Emission factor for GHG_i. Use 1.2 x 10⁷ standard cubic feet per year per compressor for CH₄ and 5.30 x 10⁵ standard cubic feet per year per compressor for CO₂ at 60°F and 14.7 psia.

* * *

(p) * *

(7) * *

$$E_{s,i} = EF_m * T_m * GHG_i \quad (\text{Eq. W-27})$$

* * *

(i) * *

$$EF_m = \frac{\sum_{p=1}^{Count_m} MT_{m,p}}{Count_m} \quad (\text{Eq. W-28})$$

* * * *

(r) * *

(2) Onshore petroleum and natural gas production facilities shall use the appropriate default population emission factors listed in Table W-1A of this subpart for equipment leaks from valves, connectors, open ended lines, pressure relief valves, pump, flanges, and other. Major equipment and components associated with gas wells are considered gas service components in reference to Table W-1A of this subpart and major natural gas equipment in reference to Table W-1B of this subpart. Major equipment and components associated with crude oil wells are considered crude service components in reference to Table W-1A of this subpart and major crude oil equipment in reference to Table W-1C of this subpart. Where facilities conduct EOR operations the emissions factor listed in Table W-1A of this subpart shall be used to estimate all streams of gases, including recycle CO₂ stream. The component count can be determined using either of the methodologies described in this paragraph (r)(2). The same methodology must be used for the entire calendar year.

* * * *

(6) * * *

(ii) Emissions from all above grade metering-regulating stations (including above grade TD transfer stations) shall be calculated by applying the emission factor calculated in Equation W-32 and the total count of meter/regulator runs at all above grade metering-regulating stations (inclusive of TD transfer stations) to Equation W-31. The facility wide emission factor in Equation W-32 will be calculated by using the total volumetric GHG emissions at standard conditions for all equipment leak sources calculated in Equation W-30B in paragraph (q)(8) of this section and the count of meter/regulator runs located at above grade transmission-distribution transfer stations that were monitored over the years that constitute one complete cycle as per (q)(8)(i) of this section. A meter on a regulator run is considered one meter/regulator run. Reporters that do not have above grade T-D transfer stations shall report a count of above grade metering-regulating stations only and do not have to comply with §98.236(c)(16)(xix).

* * * * *

(t) Volumetric emissions. If equation parameters in §98.233 are already at standard conditions, which results in volumetric emissions at standard conditions, then this paragraph does not apply. Calculate volumetric emissions at standard conditions as specified in paragraphs (t)(1) or (2) of this section, with

actual pressure and temperature determined by engineering estimates based on best available data unless otherwise specified.

(1) Calculate natural gas volumetric emissions at standard conditions using actual natural gas emission temperature and pressure, and Equation W-33 of this section for conversions of $E_{a,n}$ or conversions of FR_a (whether sub-sonic or sonic).

* * * * *

$E_{s,n}$ = Natural gas volumetric emissions at standard temperature and pressure (STP) conditions in cubic feet, except $E_{s,n}$ equals $(FR_{s,p})$ for each well p when calculating either subsonic or sonic flowrates under 98.233(g).

$E_{a,n}$ = Natural gas volumetric emissions at actual conditions in cubic feet, except $E_{a,n}$ equals $(FR_{a,p})$ for each well p when calculating either subsonic or sonic flowrates under 98.233(g).

* * * * *

(v) * * *

* * * * *

ρ_i = Density of GHG_i . Use 0.0526 kg/ft^3 for CO_2 and N_2O , and 0.0192 kg/ft^3 for CH_4 at $60^\circ F$ and 14.7 psia .

* * * * *

(z) * * *

(2) * * *

(iii) * * *

* * * * *

E_{a,CO_2} = Contribution of annual CO_2 emissions from portable or stationary fuel combustion sources in cubic feet, under actual conditions.

* * * * *

(vi) * * *

* * * * *

HHV = For the higher heating value for field gas or process vent gas, use 1.235×10^{-3} mmBtu/scf for HHV.

* * * * *

8. Section 98.236 is amended by:

a. Revising paragraph (c) (5) (ii) (D) .

b. Revising paragraph (c) (9) introductory text.

c. Revising paragraph (c) (13) (iii) (C) .

d. Revising paragraphs (c) (15) (i) (B) , (c) (15) (i) (C) , and (c) (15) (ii) (A) .

e. Revising paragraph (c) (17) (v) .

The revisions read as follows:

§98.236 Data reporting requirements.

* * * * *

(c) * * *

* * * * *

(5) * * *

(ii) * * *

(D) Average internal casing diameter, in inches, for all wells, where applicable.

* * * * *

(9) For transmission tank emissions identified in §98.233(k) from scrubber dump valves report the following:

* * * * *

(13) * * *

(iii) * * *

(C) Report the isolation valve leakage emissions in not operating, depressurized mode in metric tons of CO₂e for each gas (refer to Equation W-23 and Equation W-24 of §98.233).

* * * * *

(15) * * *

(i) * * *

(B) For onshore natural gas processing, range of concentrations of CH₄ and CO₂ (refer to Equation W-30A of §98.233).

(C) Annual CO₂ and CH₄ emissions in metric tons CO₂e for each gas (refer to Equation W-30A of §98.233), by component type.

(ii) * * *

(A) For source categories §98.230 (a) (5), (a) (6), and (a) (7), total count for each component type in Tables W-4, W-5, and W-6 of this subpart for which there is a population emission factor, listed by major heading and component type.

* * * *

(17) * *

(v) For each EOR pump, report annual CO₂ emissions, expressed in metric tons CO₂e for each gas.

* * * *

9. Table A-1A of Subpart W of part 98 is revised to read as follows:

Table W-1A of Subpart W-Default Whole Gas Emission Factors for Onshore Petroleum and Natural Gas Production

Onshore petroleum and natural gas production	Emission Factor (scf/hour/component)
Eastern U.S.	
Population Emission Factors - All Components, Gas Service¹	
Valve	0.027
Connector	0.003
Open-ended Line	0.061
Pressure Relief Valve	0.040
Low Continuous Bleed Pneumatic Device Vents ²	1.39
High Continuous Bleed Pneumatic Device Vents ²	37.3
Intermittent Bleed Pneumatic Device Vents ²	13.5
Pneumatic Pumps ³	13.3
Population Emission Factors - All Components, Light Crude Service⁴	
Valve	0.05
Flange	0.003
Connector	0.007
Open-ended Line	0.05
Pump	0.01
Other ⁵	0.30
Population Emission Factors - All Components, Heavy Crude Service⁶	
Valve	0.0005
Flange	0.0009
Connector (other)	0.0003
Open-ended Line	0.006
Other ⁵	0.003
Western U.S.	
Population Emission Factors - All Components, Gas Service¹	
Valve	0.121
Connector	0.017
Open-ended Line	0.031
Pressure Relief Valve	0.193

Onshore petroleum and natural gas production	Emission Factor (scf/hour/component)
Low Continuous Bleed Pneumatic Device Vents ²	1.39
High Continuous Bleed Pneumatic Device Vents ²	37.3
Intermittent Bleed Pneumatic Device Vents ²	13.5
Pneumatic Pumps ³	13.3
Population Emission Factors - All Components, Light Crude Service⁴	
Valve	0.05
Flange	0.003
Connector (other)	0.007
Open-ended Line	0.05
Pump	0.01
Other ⁵	0.30
Population Emission Factors - All Components, Heavy Crude Service⁶	
Valve	0.0005
Flange	0.0009
Connector (other)	0.0003
Open-ended Line	0.006
Other ⁵	0.003

¹ For multi-phase flow that includes gas, use the gas service emissions factors

² Emission Factor is in units of "scf/hour/device"

³ Emission Factor is in units of "scf/hour/pump"

⁴ Hydrocarbon liquids greater than or equal to 20°API are considered "light crude"

⁵ "Others" category includes instruments, loading arms, pressure relief valves, stuffing boxes, compressor seals, dump lever arms, and vents.

⁶ Hydrocarbon liquids less than 20°API are considered "heavy crude"

10. Table W-5 to Subpart W of part 98 is amended by revising the entry for "Vapor Recovery Compressor" to read as follows:

Table W-5 of Subpart W-Default Methane Emission Factors for Liquefied Natural Gas (LNG) Storage

LNG Storage	Emission Factor (scf/hour/component)
* * * * *	
Vapor Recovery Compressor ²	4.17

Subpart TT-[Amended]

11. Section 98.460 is amended by adding paragraph
(c) (2) (xiii) to read as follows:

§98.460 Definition of Source Category.

* * * * *

(c) * * *

(2) * * *

(xiii) Other waste material that has a DOC value of 0.3 weight percent (on a wet basis) or less. DOC value must be determined using a 60-day anaerobic biodegradation test procedure identified in 98.464 (b) (4) (i) (A).

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